American
NOVEMBER • 1953

# Vegetable Grower

STREPTOMYCIN ENTERS VEGETABLE FIELD

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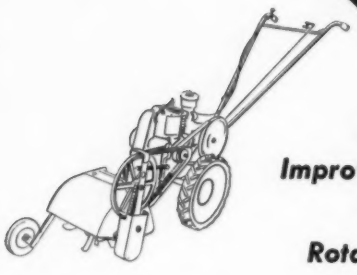

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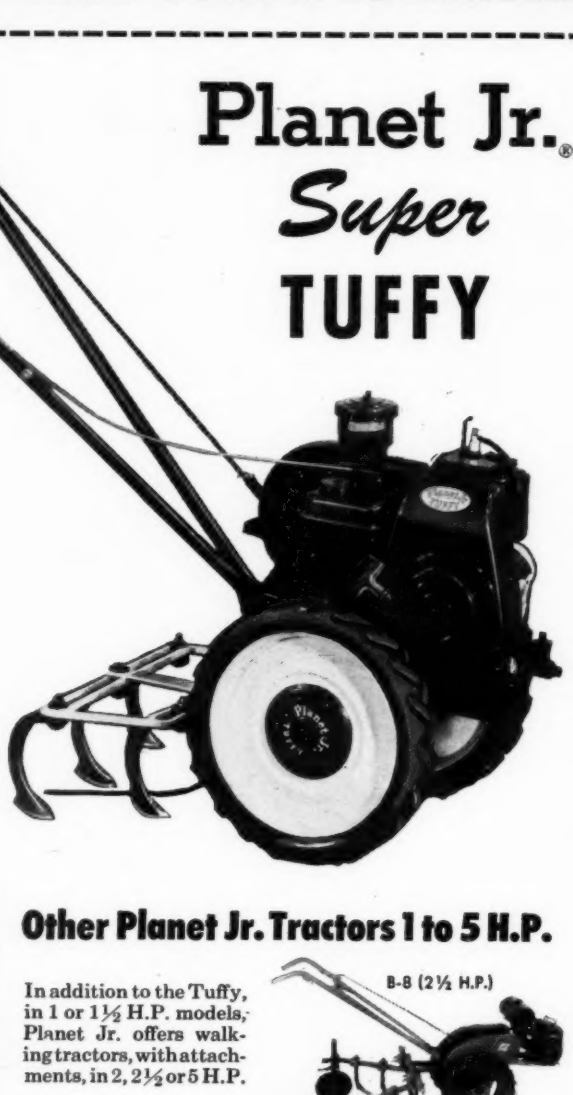

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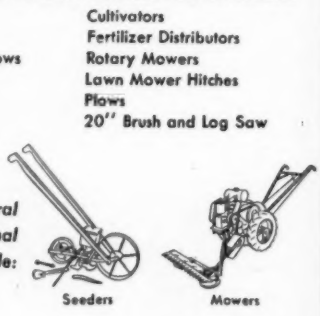


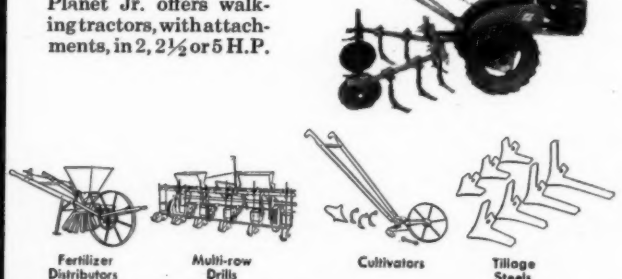


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Planet Jr.

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# LETTERS TO THE EDITOR

### *Trouble Growing Honey Dews*

Dear Editor:

I noted with interest in the September issue of AMERICAN VEGETABLE GROWER on the editorial page the editorial, "Don't Hesitate to Write."

We have tried on several occasions to raise a small quantity of honey dew melons but have never been very successful. It is entirely possible that we do not have the proper information on growing honey dew melons and the proper handling of them after they are taken from the vines. If you have any information on this subject we will appreciate very much your sending it to us.

Fort Mill, S. C. L. C. McFadden

*According to the best information available, the production of honey dew melons in your area is a very difficult proposition. High humidity and hot nights result in disease and poor growth which preclude satisfactory production of honey dew melons in the south. Honey dews thrive best in arid regions where crops are irrigated. It takes a month longer to grow honey dew melons than muskmelons and disease must be controlled more adequately for a longer period of time.—Ed.*

### *Mechanical Bean Harvester*

Dear Editor:

We very much appreciate the publicity given our mechanical bean harvester in your September issue.

It will be several months before we are in a position to say just what our future plans for production of this unit will be. As you probably know, we have been trying to pick beans mechanically for the last 30 years and the progress has been rather slow. We undoubtedly will put a few more machines out next year, but they will not be available in any great quantity to growers in general, as we have a waiting list about a mile long for our first machines.

We certainly do appreciate your co-operation in making this story available to your readers.

W. D. Chisholm
Chisholm-Ryder Company, Inc.
Niagara Falls, N. Y.

### *Compliments from the V. G. A. A.*

Dear Sir:

It is impossible for me to restrain myself from complimenting folks for the application of themselves to their work with enthusiasm and courage. You are doing this in the publication of the AMERICAN VEGETABLE GROWER. Therefore, please accept my congratulations for your splendid work and may success be one of your compensations.

Cleveland, Ohio Walter F. Pretzer

### *Mechanization of Vegetable Crops*

Dear Editor:

I had intended to write you earlier to compliment you on the issue of AMERICAN VEGETABLE GROWER covering mechanization of vegetable crop production. I think that you have done an excellent job on the organization of this publication and it should find a very definite place in the vegetable production industry, both for fresh market and for processing. There are some rather revolutionary changes occurring in vegetable production, and growers should be kept informed on changes and trends affecting their business.

With best regards and best wishes for continued success to the AMERICAN VEGETABLE GROWER.

Charles H. Mahoney
Washington 6, D. C.

### *Trend in Vegetable Consumption*

Dear Editor:

For some time I have been wondering if there was a chart or graph out which compared the consumption of canned, frozen, and fresh vegetables. Now I have seen exactly what I wanted in the article on vegetable consumption in your October issue. Thank you very much for a fine article and excellent charts.

Roanoke, Va. B. L. Jones

Dear Editor:

The article on vegetable consumption was certainly very interesting and contained good food for thought. It is amazing to see the shifts that are taking place in consumption of fresh vegetables, and I must say I wasn't aware of the rapid rise of consumption of frozen vegetables. It shows that people prefer the quick and easy method of preparing their vegetables.

El Paso, Tex. J. B. Lowell

### *Likes Roadside Marketing Article*

Dear Editor:

I enjoyed the roadside marketing story which appeared in the October issue of AMERICAN VEGETABLE GROWER. For some time I have been thinking of opening a roadside market for my fresh vegetables and also for my few strawberries and raspberries. Mr. Banta gave many helpful pointers in his article, and they are ones I will want to take into consideration when I get my market into operation.

Why don't you print letters from other people who have roadside markets? I think it would be a good idea to read how other people operate their stands and the factors they consider important for their successful operation.

Benton Harbor, Mich. R. J. Smith

### *Vegetable Combine*

Dear Editor:

Will you kindly let us know the name and address of the manufacturer or sales agent to contact who might give us complete details on the Scott-Urschel combine pictured on page 7 of your September issue? Thank you very much.

Denver, Col. Calvin Kunz, Jr.

*The manufacturer of the combine pictured in our September issue is the Scott Viner Company, 1224 Kinnear Road, Columbus 8, Ohio.—Ed.*


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# The VEGETABLE Situation

EARLY indications for fall vegetable crops point to a production of only two per cent below last year and one per cent above the 1949-51 average. To date, weather has been favorable in most sections. A few scattered localities reported adverse conditions, such as above normal temperatures in the northeast states, excessive rainfall in Florida which handicapped seeding and setting of fall and winter vegetables, and insufficient rainfall in many states west of the Allegheny Mountains.

**SNAP BEANS**

Prospect is for a 2,168,000-bushel crop which is three per cent above last year but 19 per cent below the 1949-51 average. In general, weather conditions have been favorable.

An increase of 45 per cent over last year is indicated in the two late fall states of Texas and Florida. Indicated production is for 1,900,000 bushels. This is also 24 per cent above the 1949-51 average. Plantings have increased about 25 per cent with Florida accounting for most of the increase.

**CARROTS**

Indicated production of early fall carrots is 8,993,000 bushels, three per cent under last year and 41 per cent less than the 1949-51 average. Good quality carrots are being harvested in Massachusetts and supplies are adequate for local needs.

**CAULIFLOWER**

Forecast is for a crop five per cent under last year and 10 per cent less than the 1949-51 average. Here, again, hot dry weather with little or no rainfall took its toll. New York's Long Island crop was cut considerably and much of the acreage was abandoned. The New Jersey crop is in need of rain, although production is increasing here.

**CELERY**

Early fall production is now expected to be 1,983,000 crates, about equal to last year but 19 per cent below the 1949-51 average. Quality in Pennsylvania has been good in spite of some blight. Irrigated acreage in New York is in good condition. Supplies in Massachusetts are plentiful, and in Michigan harvest is active although insufficient rain reduced size and lowered quality.

**CUCUMBERS**

Early fall production is expected to reach 701,000 bushels. Prospects improved in South Carolina following rains. Production is declining in California, but supplies will be sufficient until frost. Good quality cucumbers are available in Louisiana and harvest has begun in Georgia.

**LETTUCE**

Indications are for a crop of 8,585,000 crates, two per cent less than last year but 22 per cent above the 1949-51 average.

Production in California has been stimulated by a strong market. Quality has varied and many fields have failed to size—both conditions attributed to unfavorable weather. Hail damaged part of the Texas crop, but most fields are expected to recover.

**GREEN PEPPERS**

Forecast is for a 1,166,000-bushel crop, seven per cent less than last year but about equal to the 1949-51 average. In Virginia, peppers were damaged by the mid-August hurricane, and the hot dry weather which followed put the crop behind schedule. Conditions have been favorable in Texas, but in Florida, because of heavy rains, the crop will be late.

**POTATOES**

Late crop is estimated at 291,519,000 bushels, approximately seven million bushels less than indicated last month. However, estimate is eight per cent larger than the 1952 crop but nine per cent below the 1942-51 average

In Maine, vines were artificially killed to prevent large quantities of undesirably large tubers. Most of these growers used either the rotobeater or chemical treatment. Elsewhere in the U. S., weather was generally favorable for harvest. Dry weather affected the crop somewhat in New York and Pennsylvania, though quality was good. Harvest is nearly completed in the Fargo-Moorhead section of the Red River Valley. Quality is good in most of the important western potato areas. However, a larger than usual proportion of the crop is expected to be culled out because of more stringent size requirements.

**VEGETABLES FOR PROCESSING**

Indicated production is slightly higher than that forecast a month ago for the nine crops for processing. Slight reductions in production of lima beans, beets for canning, cabbage for kraut, sweet corn, green peas, and pimientos were more than offset by an increase in indicated production of tomatoes.

**Row of beans with stakes was not treated with streptomycin. Each stake represents a halo blight-infected plant. Four rows to left were sprayed three times with streptomycin resulting in 100 per cent control of the disease. *Photo by USDA.***

# STREPTOMYCIN *Controls* HALO BLIGHT

**Now for the first time effective control is possible of this bacterial disease, prevalent wherever rain falls frequently during the growing season**

By W. J. ZAUMEYER, H. REX THOMAS, and J. W. MITCHELL
*U. S. Department of Agriculture*

STREPTOMYCIN, the antibiotic which has proved so effective in controlling certain human and animal diseases, is the first material found that effectively controls halo blight, a bacterial disease of beans. This disease may be found wherever rain falls frequently during the growing season. Halo blight shows up on the leaves, stems, and pods, and when the disease is widespread, it may cause considerable loss.

Preliminary greenhouse experiments at Beltsville, Md., showed that when a very small amount of streptomycin was applied to the stems of bean seedlings before inoculation with the halo blight organism, the primary leaves did not become infected. The antibiotic was absorbed by the stems and moved upward into the primary leaves in sufficient amounts to protect the plants from halo blight. No evidence was found that streptomycin entered the pods in this manner. Dipping or spraying the foliage with very weak solutions of streptomycin completely protected greenhouse-grown plants from the disease.

Tests were next initiated to determine whether this antibiotic would be as effective in controlling the disease in the field as in the greenhouse. Topcrop and Bountiful beans, both very susceptible to halo blight, were sprayed one to four times at weekly intervals with a 0.1 per cent solution of streptomycin. Other plants were sprayed four times with Fermate or Orthocide. The first spray applications were made when the first leaves of the bean seedlings were about three-fourths expanded. To insure a widespread infection of blight, all the plants were inoculated by a high pressure spray application of halo blight bacteria three days after the first antibiotic treatment.

The disease records were taken about 30 days after the plants became infected. More than 90 per cent of the plants in the untreated plots were infected. Forty-one per cent of the plants receiving one application of streptomycin were infected. In the group receiving two applications, 10 per cent showed infection, while in the groups receiving three and four applications, no infection was noted. In the plots sprayed with Fermate or Orthocide, 88 and 91 per cent infections, respectively, were noted.

Since abundant bacterial infection was constantly present in the field, the lack of coverage of the new growth with streptomycin may account in part for the greater amount of infection noted in the plots receiving only one application. When the coverage was more complete, as in the plots sprayed three and four times, no blight developed.

It is believed that in commercial fields showing only a trace of halo blight in the early stages of plant development, subsequent spread of the disease can be considerably reduced by one or two sprayings of streptomycin. The writers have evidence that the concentration of the antibiotic in the spray can be reduced, possibly to 0.025 per cent (250 parts per million) of streptomycin. To prevent deposition of streptomycin on the pods, no

(*Continued on page* 16)

# THE VEGETABLE AREAS OF AMERICA

# NEW JERSEY

By FRED W. JACKSON

*New Jersey Department of Agriculture*

**This overall picture of America's Garden State is the first of a series. Other great vegetable regions will be featured from time to time.—*Ed.***

A LIST of New Jersey-grown vegetables embraces most of the alphabet, extending from anise and asparagus to turnips, watermelons, and Zucchini squash. A recent USDA survey reported 52 different vegetables raised on a commercial basis. Every day throughout the year finds New Jersey growers shipping a variety of produce to the nearby markets, thus contributing to the assorted menus of the many nationalities that make up the population in the New York and Philadelphia areas.

Vegetable growing in New Jersey is an important enterprise on at least 12,000 farms plus an additional 1,600 farms if those growing white potatoes are included. The income from truck crops and potatoes accounts for about $70 million annually or about one-fifth of the value of all farm crops.

New Jersey has long been known as The Garden State because her agriculture has been devoted largely to supplying fresh fruits and vegetables to near-by metropolitan areas. Those markets remain important outlets. In addition there is the rapidly growing home population within the state, which enjoys a high standard of living because little New Jersey, ranking only 45th in land area, holds seventh place in value of industrial output. Outside its borders and within overnight trucking distance is a third of the population of the nation.

**Loading and hauling peas on the night shift is a common sight at Seabrook Farms as the work schedule continues around the clock in late May when pea harvest starts.**

**Charles E. Maier of Pine Brook pridefully exhibits his uniform stand of Romaine lettuce.**

Approximately 180,000 acres are devoted to truck crops and potatoes in New Jersey. There have been shifts to meet changing consumer habits and market demands in recent years which are reflected in nearly every county. The total acreage devoted to truck crops has expanded about 20 per cent in recent years primarily because of an increased demand for vegetables for processing. At present about 45 per cent of the total acreage is devoted to producing crops for canners and freezers. Yet, the potato acreage has declined sharply and is now only about half of that planted prior to World War II.

Besides being located close to excellent markets, New Jersey enjoys a long growing season and has a wide


**Market gardening or truck farming is concentrated in eight principal areas in the Garden State. Most of the potato farms are located in Area 4. An important sweet potato center is located in Area 7. In Area 6 overhead irrigation is used extensively. About 10,000 acres of early sweet corn are grown in Area 5, one of New Jersey's most important vegetable and fruit districts. In Area 1 a narrow belt of muckland extends into the famous Orange County onion area in New York state, while in Area 3 swamp and muckland have been drained to permit growing celery, lettuce, cabbage, and onions. Area 2 includes a considerable acreage in coldframes. Seashore resorts receive their vegetables from Area 8.**

**Soon after midnight picking gangs start work in the Burlington County sweet corn fields. The dew-laden corn is packed, iced, and hauled 60 to 75 miles to Newark or New York and is available to city housewives when the stores open.**

**All hand labor is eliminated by this beet harvesting machine which pulls, tops, and loads beets on the farm of Joseph G. Hancock at Greenwich. As fast as the beets are harvested the land is being prepared for a crop of broccoli.**

variety of soils adaptable to many different vegetables. For instance, in the northern part of the state, the Great Meadow section of Warren County, there are muckland operations devoted to celery, lettuce, cabbage and onions.

In contrast, on the lighter soils of South Jersey, most of which are below the so-called Mason-Dixon line, sweet potatoes, lima beans, tomatoes, asparagus, and peppers are important crops. The longer growing season in this latter area extends from early March through November and occasionally into December, thus permitting a sequence of crops.

Vegetable growing is typical of much of the agriculture that prevails in New Jersey, where the average size farm is only 70 acres, and farming is both highly specialized and widely diversified. The gross income per acre of all land in farms was $208 in 1952, the highest in the nation. Those not acquainted with the Garden State may raise their eyebrows at such a statement, especially when the New Jersey return of $208 is compared with the gross income from an average acre in the great farm states. California is in sixth place with $77, Iowa seventh with $68 and Illinois ninth with $65. Of course, in total volume and value of production New Jersey yields to the larger states, in some of which there are single counties that are nearly as large in area as the entire state of New Jersey, which is only about 160 miles long and 50 to 60 miles wide.

While New Jersey vegetable growers enjoy a number of advantages over the more distant producers, they also face rather high costs of production. Land values are high, especially in the upstate market garden areas on the outskirts of the cities. In those areas residential developments are annually taking over land valued at several thousand dollars per acre, and growers are paying taxes of $100 to $200 a year.

Likewise, labor costs are high, as farmer-employers must bid for labor against factories which are enjoying a decade of prosperity and expansion. Under such circumstances a number of market gardeners are selling out and moving to more rural areas where they are renewing operations as truck farmers.

*Canning and Freezing*—New Jersey is one of the pioneers in the processing of vegetables. A number of concerns began packing tomatoes in the 1850's. As the canning industry developed, the demand for an increased acreage of tomatoes was met by South Jersey farmers. One large firm, the P. J. Ritter Company at Bridgeton, is observing its centennial this year, never having missed a season's pack since the company was

(*Continued on page* 18)

# HIGH YIELDS Make Berry Profits

**Can you get 16,000 quarts per acre? A runner spacing system does it for Jack Sambade, Cape Cod, Mass., grower**

By CHARLES L. STRATTON

CAPE COD, Mass., strawberry growers get the highest yields per acre of any growers in the country. Yields have been reported up to 17,000 quarts per acre, with nothing unusual about 14,000 to 15,000 quarts per acre, and averages of 3,000 to 4,000 quarts *more* per acre than growers get in other strawberry sections. The secret is in the care and setting of the plants.

One grower, Jack Sambade, who has had 27 years of experience in the Cape section and has had yields as high as 16,000 quarts per acre, points out the unusual runner spacing system used by all Cape growers. Plants are not allowed to bunch up in a mass as in other sections. In a five-foot bed the mother plants are set out in the center, 18 to 24 inches apart according to variety, and three daughter plants or runners are allowed to grow on each side of the mother plant. These runners are covered with earth to hold them in position. All other suckers are pinched off.

Care must be taken, Sambade has found, in setting the crown of the mother plant. The trick is to set the crown level with the ground surface.

The disadvantage of runner spacing is the huge amount of hand work required. Plants must be gone over several times during the season and every single runner not wanted must be pinched off. But the advantages are many. The berries are larger and better; there's more room between plants; plenty of space in which to hoe; and space between plants can be mulched with pine needles to keep down weeds.

Pine needles, although scarce, are the favorite mulch with Cape strawberry growers. In November the general practice is to cover the beds with a one and one-half to two-inch layer of the needles. The needles do not blow off like the marsh hay sometimes used. The plants grow through the pine needles which serve also as a mulch. Before plowing up an old strawberry bed the needles are raked off.

It requires good fertility and a good soil to produce high yields. Most of the growers keep in close touch with Barnstable County Agent Bert Tomlinson for frequent soil tests. Sambade claims the soil has a lot to do with their high yields, but the light sandy soil in the area needs plenty of moisture.

Lately Sambade has irrigated his three acres of strawberries. His practice is to lay pipe with sprinkler holes between the rows and give the plants a thorough soaking to a depth of one inch once a week. Sprinkling is done at night or after the berries have been picked for the day.

Sambade finds that berries thrive particularly well on newly broken soil. On one section of his land cleared of brush two years ago and plowed, he set out strawberries the same year and picked his first crop the following year.

When renewing a strawberry bed Sambade plows everything under and puts in a summer cover of Sudan grass, millet, or a mixture of Sudan and field corn for a good quick growth. This summer crop is plowed under in September and seeded down to winter rye. The land is plowed under again in the spring and set out to strawberries again.

This building up of the soil is necessary for large crops. Most growers have their own methods of applying commercial fertilizers. Sambade uses mostly a 5-8-7 for better top growth.

(*Continued on page* 17)

**Jack Sambade, Cape Cod strawberry grower for over 27 years, shows how he uses runner spacing system of setting out strawberry plants. Mother plant is set out in center of row and three runners, called daughter plants, on each side of mother plant are covered with earth. All other runners are pinched off. Note spacing of the plants.**

# POTATO INDUSTRY ADOPTS "SELF-HELP" PROGRAM

**Extensive merchandising and marketing of only top quality potatoes are optimistic approaches to the handling of this year's big crop**

By LARSTON D. FARRAR

A GROUP of growers, shippers, wholesalers, retailers, and marketing and research specialists interested in stimulating the overall consumption of potatoes has met with USDA officials in Washington in a "very successful" meeting, at which plans were laid for a nationwide potato promotion during the 10-day period of December 3-12.

At the same time, members of the group virtually unanimously voiced optimism that the current or late potato crop, estimated at 291 million bushels (11 million more than last year), could be utilized and/or marketed without having to call on Uncle Sam for increased subsidy assistance or a renewed purchase program. The potato representatives seemed content to allow the cattlemen to have the adverse publicity spotlight this year.

Americans this year already are eating an estimated six to seven pounds more potatoes per capita, on an average, than they did last year (in the form of canned French fried, potato chips, as well as the potato dishes prepared by housewives), experts told the group, and there are reasons to believe that an extensive promotion of potatoes as an economic, nutritive food will make them more popular than ever in the typical home.

"Potatoes have an outstanding appeal as a budget-balancer," Assistant Secretary of Agriculture John H. Davis told the group in his opening remarks. "The nutritive value of potatoes is recognized as making them highly beneficial to the nation's health, too."

The group came out in favor of:

1) More research by both private industry and Uncle Sam into ways and means of marketing potatoes more economically and of utilizing efficiently in both food outlets and the commercial industry the larger potato output that seems to be a feature of modern farming.

2) Compulsory labeling laws that work, on both the national and the state plane, so that consumers definitely can count on the potatoes they purchase at stores throughout the land. Uncle Sam has a labeling law, administered (in theory) by the Food and Drug Administration, but it does not affect potatoes grown and marketed inside a state. Also, only a few states have such labeling laws.

3) Extension of marketing agreements to virtually all potato-growing areas. Federal or state potato marketing agreements currently are effective in only six areas (Idaho, Washington, northern California and central Oregon, Colorado, Red River Valley, and the Stockton area of California), and are established but inactive in three other areas (New England excluding Maine, North Carolina-Virginia, and South Dakota). Note that Maine, whose Aroostook County is the largest producing area in the nation, is not in a marketing agreement area.

4) More year-round promotion of potatoes as a nutritive and economic food by all segments of the potato industry, from the growers through to the ultimate retailers.

5) Emphasis on potatoes as a constant supply of good food. This entails diversion by the industry of the lower grades into other channels of utilization and actual marketing for consumer use of only the very best potatoes grown.

There was discussion of setting new grades on potatoes, but nothing beyond the talk stage was undertaken. There was general agreement that all segments of the industry should stress the marketing of the best potatoes (of which there are plenty this year) to the housewives and other ultimate consumers, such as restaurants, hotels, etc., and that the culls be utilized in other ways.

Growers and shippers at the meeting were Frank W. Hussey, Presque Isle, Maine; Sol Lavitt, Ellington, Conn.; Nathaniel A .Talmage, Riverhead, Long Island, N. Y.; J. Muse McCotter, New Bern, N. C.; J. Abney Cox, Miami, Fla.; Max Wilkes, Shafter, Calif.; Scott Warren, Klamath Falls, Ore.; John Harkoff, Lyndon, Wash.; Winslow B. Whiteley, Oakley, Idaho; L. E. Waters, Denver, Colo.; Ross A. Tallackson, Grafton, N. D.; W. James Prosser, Antigo, Wis.; Harry A. Reiley, Cadillac, Mich.; Ferris Owen, Newark, Ohio; L. Irwin, Foley, Ala.; O. J. Odegard, Princeton, Minn.; and Jack B. Bishop, Wayland, N. Y.

Wholesalers attending were Frank McCauley, Brooklyn, N.Y., and Meyer Friedman, Chicago, Ill.

Retailers were represented by Don R. Grimes, Chicago, Ill.; canners, freezers, and dehydrators by John L. Baxter, Brunswick, Maine; and potato chippers by Herman W. Lay, Atlanta, Ga.

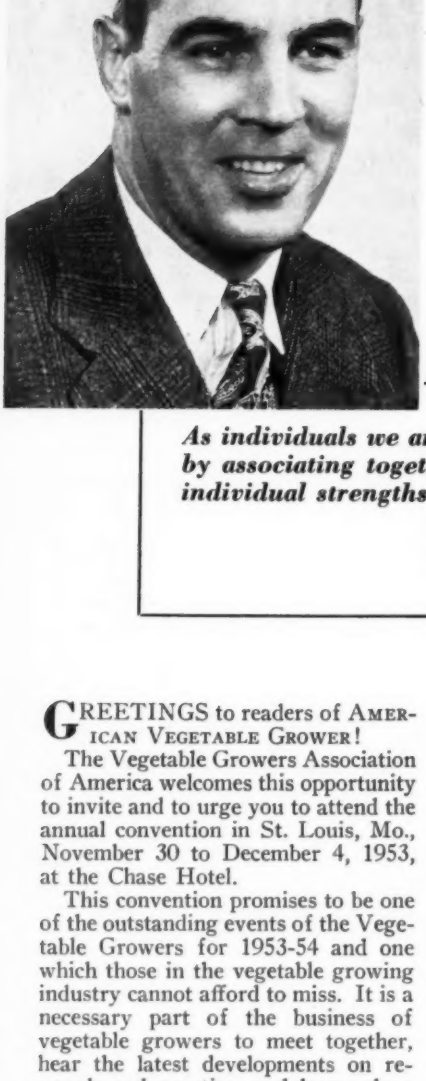
Maurice C. Bond, Cornell University, Ithaca, N. Y., and C. O. Youngstrom, University of Idaho Extension Service, State House, Boise, represented the colleges and extension services. THE END

## Potato Council Goes Into Action

THE National Potato Council, of which Sol Lavitt, Ellington, Conn., is president, has announced that William M. Case will direct a promotion campaign aimed at increasing the per capita consumption of potatoes. Mr. Case, executive secretary of the Red River Valley Growers Association, was appointed executive director of the council. Max Chambers, Preston, Md., experienced in vegetable promotion work, was chosen by Mr. Case to assist in the program.

Co-operating in the intensive merchandising campaign which the industry has scheduled for December 3 to 12 will be the National Association of Food Chains, National Association of Retail Grocers, and other retailers, wholesalers, distributors, restaurant and hotel groups, as well as consumer organizations.

"The potato industry's problem," the council states, "is not one of overproduction but rather under-consumption. Every one-pound increase per year in the national per capita consumption means two and one-half million bushels of potatoes. A 10-pound increase of consumption this year would wipe out the surplus, thus preventing any possibility of waste and at the same time preventing loss to the growers."



# *Don't Miss the* VEGETABLE GROWERS' *Meeting in* ST. LOUIS

**Here is a personal invitation to each and every vegetable grower from VGAA President A. Lee Towson, Jr.**

***As individuals we are limited . . . by associating together our individual strengths are multiplied . . .***

A. Lee Towson Jr.

GREETINGS to readers of AMERICAN VEGETABLE GROWER!

The Vegetable Growers Association of America welcomes this opportunity to invite and to urge you to attend the annual convention in St. Louis, Mo., November 30 to December 4, 1953, at the Chase Hotel.

This convention promises to be one of the outstanding events of the Vegetable Growers for 1953-54 and one which those in the vegetable growing industry cannot afford to miss. It is a necessary part of the business of vegetable growers to meet together, hear the latest developments on research and practice, and learn plans for the development and extension of their industry.

This convention in St. Louis will be the opportunity for you as a vegetable grower to participate. You will pick up valuable ideas of production and marketing which when incorporated in your own operation will prove that your time and expense were well spent.

An outstanding trade show of the latest in machinery and supplies for our industry will be a feature of the convention.

The program on Monday, November 30, includes tours of the St. Louis area, with a tea and reception scheduled for Monday afternoon. At this time we will meet our vegetable queens as well as our wonderful hosts, the St. Louis growers who have been so busy making arrangements for our comfort and entertainment.

Tuesday will prove, I am sure, to be one of the most important days of our present vegetable industry's history. Young executives, 35 or under, will have their breakfast and business meeting. This will be followed by an address by an outstanding agricultural leader. Following this program there will be a meeting of delegates who will be given an opportunity to discuss the problems of our industry and association. Resolutions and motions will be discussed.

Tuesday afternoon's program will include an address by J. Earl Coke, Assistant Secretary of Agriculture, followed by a panel discussion led by Congressman Karl King, a prominent vegetable grower. To wind up the program for Tuesday afternoon a forum on National Vegetable Week will be held during which the film of the 1953 TV National Vegetable program will be shown.

The programs on Wednesday and Thursday are designed for particular segments of the industry such as hot house, muck crops, potatoes, and processing. A general program on prepackaging, marketing, truck crops, human relations, and an implement forum will be of tremendous general interest. Some of the most prominent men in their particular fields will take part in these programs.

The final business session at which we will have election of officers and final passing of resolutions will take place Thursday afternoon. This is a most important session since we have been asked by Secretary Benson to offer suggestions as to what our agricultural program should be. The delegates at this session will pass directives and principles which will guide our directors and officers in carrying out the association's program for the coming year.

This convention of the Vegetable Growers Association of America is a trade meeting of the vegetable growers' industry—the only national association representing vegetable growers. You as a vegetable grower are welcome; as a supply-member we will be glad to talk with you. It is important to remember that as individuals we are limited by what we can do, but by associating together our individual strengths are multiplied by the total number of individuals participating.

**The VGAA convention program of general and social events will be found on page 12.**

Come, bring your neighbor and join with others in the Vegetable Growers Association of America. Your attendance at the St. Louis convention November 30 to December 4 will bring you rich rewards. I hope to meet you all personally.

For further details concerning the convention, may I suggest you write our secretary, Dr. H. D. Brown, Horticulture Department, Ohio State University, Columbus 10, Ohio, who will gladly send you the complete convention program.

# STATE NEWS

- **Nutrient Sprays Used in Wisconsin for Minor Element Deficiencies**
- **Maine Growers Topkill Potatoes to Get Good Size**

**WISCONSIN**—Foliar sprays of 45 per cent urea (NuGreen) applied at the rate of five pounds in 100 gallons of water per acre have been used by some growers to correct nitrogen and minor element deficiencies in onion, cabbage, cauliflower, celery, pepper, snap bean, sweet corn, and tomato plantings. As much as 20 pounds in 100 gallons per acre can be used on carrots, parsley, and potatoes. Urea can be mixed safely with insecticides and fungicides in the regular spray programs on these crops.

Nutrient sprays have also been used to correct deficiencies of boron, magnesium, manganese, and iron in vegetable crops. For supplying the major elements such as phosphorus and potassium, it is best to depend upon soil applications of regular phosphorus- and potassium-bearing commercial fertilizers.

We have had difficulty in some seasons maturing our onion crop. A few growers still use a mechanical method of rolling down the onion tops to gain maturity. In some seasons hastening of maturity is noted when tops are rolled; however, yields are reduced and storage troubles such as neck rot may be encouraged.

As an alternative Wisconsin growers are turning to preharvest sprays of dinitro materials for killing down both onion tops and late infestations of weeds. A mixture of one to two quarts of Dow General plus five gallons of fuel oil in 50 gallons of water per acre is used. Application is made when about 10 to 20 per cent of the tops have gone down by natural maturity.

Two new potato varieties used on a limited scale in 1953 have caught grower interest. While actual recommendations for planting have not been made, growers may want to at least try Cherokee and La Soda. Cherokee is an early midseason white variety, resistant to both scab and late blight. La Soda is a midseason red variety with high yielding ability. Both varieties show good cooking characteristics.—*John A. Schoenemann, Ext. Veg. Crops Spec., Univ. of Wis., Madison 6.*

**MAINE**—The quality potatoes which are the rule this year in Maine didn't "just grow." To bring about this satisfactory situation growers killed potato tops before digging by spraying or rotobeating. About 50 to 60 per cent of the potato acreage was taken care of in this way well before harvest.

The method was used primarily to cut down chances of blight infection and later rotting in storage. Also, complete killing and drying of the tops before digging allowed potatoes to harden which made them less tender to bruising and skinning during harvest and storage.

Because growers stopped growth of their potatoes in early September, their potatoes were of a more uniform size and extremely large ones of little or no market value were practically eliminated from the crop.—*Paul N. Mosher, Ext. Serv., Orono.*

**MICHIGAN**—The 1953 season was not a profitable one for many celery growers as they experienced little demand for golden celery. Pascal movement was fairly good all during the season, but prices were low. Dry weather prevented later-planted fields from attaining maximum size and yields.

The annual meeting of the Michigan Celery Promotion Association is scheduled for December 4 at Zeeland. Members will elect five of their number to the board of directors. Bernard J. Imming, U.M.I. field director, will be the featured speaker on the afternoon program.—*Howard Trapp, Sec'y-Treas., Mich. Celery Promotion Assn., Beulah.*

**FLORIDA**—Excessive rainfall and the resulting high water levels have resulted in some loss of crops as well as delayed planting by many vegetable growers. Such delayed plantings may result in heavy market gluts as the planting schedules are disrupted.—*G. M. Talbott, FFVA, Orlando.*

**NEW JERSEY**—Fruit and vegetable growers of the Garden State will be interested in the news that the Miller Chemical Company of New Jersey are the successors to the Cumberland Fertilizer Company and will be located at Bridgeton, N. J. The company, formerly operated by Roland R. Willoughby, will now be run by Walter Malyk, who is well known to New Jersey producers. The new company will manufacture and sell a full line of fertilizers and pesticides for fruit and vegetable farms.

**CALIFORNIA**—The Mackie is a new heat-tolerant lima bean for California's Central Valley. Development of this new lima variety was begun at the University of California, Davis, nearly 25 years ago. It is a large-seeded, bush-type lima that matures only a few days later than baby limas. Yields are slightly less than baby lima varieties. Limited seed supplies will be available for 1954 plantings and are expected to be generally available in 1955.

**MINNESOTA**—Potato yield this year is lower than in former years, but the quality is very good.

W. F. Haenke of Gilbert was the recipient of the Skelly Award this year. Mr. Haenke is 84 years old and along with his 84-year-old wife still does his own farm work. He has been growing high quality foundation seed potatoes on a large farm in northeastern Minnesota.

Paul Jones of Hollandale, prominent grower and shipper of potatoes and onions, died recently after a short illness. He was active in southern Minnesota vegetable affairs.—*Orrin C. Turnquist, Sec'y, Minn. Veg. Growers Association, St. Paul 1.*

**ILLINOIS**—Nadeen Marie Fingerhut, daughter of Harold Fingerhut of East St. Louis, was recently chosen Illinois State Vegetable Queen. She will compete for the

## CALENDAR OF COMING MEETINGS & EXHIBITS

**Nov. 10**—Red River Valley Potato Growers Marketing Clinic in connection with Minn. State 4-H Potato Show, High School, East Grand Forks, Minn.—Orrin C. Turnquist, Sec'y, Minn. Vegetable Growers Assn., Univ. Farm, St. Paul 1.

**Nov. 10-12**—Western Growers Association annual meeting, Hotel de Coronado, Coronado, Calif. Association headquarters: 606 South Hill, Los Angeles 14. C. B. Moore, Exec. Vice-Pres.

**Nov. 12**—Wisconsin Berry and Vegetable Growers Association annual meeting, Hotel Retlaw, Fond du Lac, Wis.—John A. Schoenemann, Univ. of Wis., Madison 6.

**Nov. 11-13**—Southeastern Short Course in the marketing of fruits and vegetables, University of Georgia, Athens, Ga.—O. B. Copeland, Agr. Editor, Univ. of Georgia, Athens.

**Nov. 16-17**—National Potato Council annual meeting, Hotel Washington, Washington, D. C.—Jack B. Bishop, Sec'y, Wayland, N. Y.

**Nov. 16-17**—Wisconsin State Horticultural Society convention, Hotel Retlaw, Fond du Lac, Wis.—H. J. Rahmlow, Sec'y, Madison 6.

**Nov. 30-Dec. 4**—Vegetable Growers Association of America annual convention. Chase Hotel, St. Louis, Mo. Convention exhibits and arrangements: Dr. H. D. Brown, VGAA Sec'y, Ohio State University, Columbus 10, Ohio. Publicity: Max Chambers, Preston, Md.

**Dec. 4**—Michigan Celery Promotion Association annual meeting, City Hall, Zeeland, Mich.—Howard Trapp, Sec'y-Treas., Beulah, Mich.

**Dec. 6-12**—National Junior Vegetable Growers Assn. annual convention, Tulsa, Okla. Write Prof. Grant Snyder, Univ. of Mass., Amherst, for data.

**Dec. 9**—Wisconsin Potato Growers' Assn., Inc., annual meeting, Antigo, Wis.—Harold R. Simons, Exec. Sec'y, Antigo.

**Dec. 10-11**—Georgia Canners Assn. annual meeting, Biltmore Hotel, Atlanta.—Raymond Sheldrake, Jr., Asst. Ext. Hort., Athens.

**Dec. 10-11**—Iowa State Vegetable Growers' Association 40th annual convention, Hotel Hanford, Mason City, Iowa—C. L. Fitch, Sec'y-Treas., Ames.

**Dec. 15**—Southern Minnesota Vegetable Growers Assn., Armory, Albert Lea, Minn.—Juel Nelson, Sec'y-Treas., Albert Lea.

**Jan. 8-9, 1954**—Connecticut Vegetable Growers Assn. annual meeting, Hotel Stratfield, Bridgeport.—E. C. Minnum, Ext. Vegetable Specialist, Storrs.

**Feb. 1-3, 1954**—39th annual meeting Ohio Vegetable and Potato Growers Association, Commodore Perry Hotel, Toledo—E. C. Wittmeyer, Ohio State Univ., Columbus 10.

**Feb. 4-5**—University of Wisconsin Farm and Home Week vegetable crops program in conjunction with Wisconsin Muck Farmers' Assn. annual meeting, University of Wisconsin, Madison.—O. B. Combs, Sec'y, Madison 6.

**Feb. 18-20**—Watermelon Growers and Distributors Association, Shamrock Hotel, Houston, Tex.—J. J. Parrish, Sec'y-Treas., Adel, Ga.

*Program of*

# VGAA 45th ANNUAL CONVENTION

## November 30-December 4, at ST. LOUIS, MO.

**Co-operating Groups: Vegetable Growers Assn. of Missouri, Farmers and Gardeners Assn. of St. Louis County, Jackson County Vegetable Growers Assn., United Vegetable Growers Assn. of St. Louis County, National Assn. of Hot House Vegetable Growers, and St. Clair, Monroe, Madison (Ill.) Vegetable Growers Assn.**

**A. Lee Towson, Jr., President**
**Seabrook Farms**
**Bridgeton, N. J.**

**H. D. Brown, Secretary**
**Hort. Dept., Ohio State University**
**Columbus 10, Ohio**

## GENERAL AND SOCIAL EVENTS

News and Information—English Room, Second Floor Chase Hotel

**MONDAY, November 30**

9:00 AM Registration — Lounge, Chase Hotel.
2:00 & 3:00 PM Busses leave Chase Hotel for tour of St. Louis Area.
4:00-8:00 PM Inspection of Exhibits. Lounge, Regency, and Foyer Rooms, Chase Hotel.
6:00-11:00 PM Reception—Tiara Room, Park Plaza Hotel.

**TUESDAY, December 1**

9:00 AM Address—Herb Boorhies, Pres., N. J. Farm Bureau—Ball Room, Forest Park Hotel
10:00 AM-1:45 PM Inspection of Exhibits, Chase Hotel.
1:45 PM President's Address; Invocation; Greetings; Announcements.—Chase Club Room, Chase Hotel.
2:00 PM Address—Honorable J. Earl Coke, Assistant Secretary of Agriculture, Washington, D. C.—Chase Club Room.
3:00 PM Government in Agriculture—Panel Discussion led by Honorable Karl C. King, Representative from Pa., Washington, D. C.—Chase Club Room.
4:00 PM Vegetable Week Forum—Film of National Vegetable Week—Moderator Roger Corbett, National Assn. of Food Chains, Washington, D. C.—Chase Club Room.
8:30 PM Supply Men's Entertainment—Tiara Room, Park Plaza Hotel.

**WEDNESDAY, December 2**

9:30-11:00 AM Hot House Program—Chase Club Room.
9:30-11:30 AM Muck & Truck Crops Program—Starlight Roof, Chase Hotel.
11:30 AM Packaging Vegetables—Wilbur L. Lenox, The Dobeckmun Co., Cleveland, Ohio—Chase Club Room.
12:00 Noon Luncheon & Business Meeting—Women's Auxiliary—Ball Room, Forest Park Hotel.
12:30-2:00 PM Inspection of Exhibits.
2:00-4:30 PM Marketing Program—Chase Club Room.
7:30 PM Human Relations—Tiara Room, Park Plaza Hotel.
8:30 PM Implement Forum—Tiara Room, Park Plaza Hotel.

**THURSDAY, December 3**

6:00-8:00 AM Tour of St. Louis Market—Busses leave Chase Hotel 6:00, 7:00 and 8:00 AM.
9:30-11:30 Processing Section Program—Starlight Roof, Chase Hotel.
9:30-11:30 Potato Section Program—Chase Club Room
11:30 AM General Section — Vegetable Breeding and Its Relation to Vegetable Production—Dr. A. F. Yeager, University of New Hampshire, Durham—Chase Club Room.
12:30-2:00 PM Inspection of Exhibits.
2:00-3:30 PM General Sessions — Chase Club Room.
3:30 PM Business Meeting—Election of Officers—Chase Club Room.
6:30 PM Annual Banquet Starlight Roof, Chase Hotel.

**FRIDAY, December 4**

9:30-Noon Tour of St. Louis area including Helwig Bros. packaging operations.

National Vegetable Queen title at the VGAA convention to be held in St. Louis, Mo., November 30-December 4.

Illinois State Vegetable Grower Association members will hold a business meeting during the VGAA convention.—*Arthur Selme, Sec'y, Ill. State Veg. Growers Assn., Rock Falls.*

**GEORGIA**—The sixth annual Southeastern Short Course in the marketing of fruits and vegetables was held at the University of Georgia, Athens, on November 11-13.

J. E. Youngblood, chief of the Extension Division of Markets and director of the State Marketing Commission of South Carolina, took part in a panel discussion dealing with the outlook for preventing economic loss in production, packaging, and shipping fruits and vegetables; and placing better produce on the market for the consumer.

C. F. Andrus, horticulturist at the Southeastern Vegetable Breeding Laboratory, Charleston, S. C., discussed the present status of new varieties of watermelons for shipping. Andrus has been instrumental in developing the Southland and Homestead wilt-resistant tomatoes and the Congo and Fairfax watermelons.

William M. Epps, plant pathologist with the South Carolina Truck Experiment Station at Charleston covered the subject of field and transit diseases that affect the quality of tomatoes.—*O. B. Copeland, Agr. Editor, Univ. of Ga., Athens.*

**VIRGINIA**—Pocahontas, a new midseason strawberry variety for southern states, has been developed by the USDA and the Virginia Truck Experiment Station.

Tested from New Jersey to North Carolina and west to Arkansas, the new variety, the USDA states, appears to be widely adapted through the south central states. It is highly promising in eastern Virginia where it produces a very good crop in the spring on fall-set plants.

Plants of Pocahontas are large and vigorous, produce runners very freely and bear heavily. Average yields in 1951 and 1952 at Beltsville in southern Maryland were 474 crates of 24 quarts each per acre.

In comparison with the widely grown Blakemore variety, berries of Pocahontas ripen five to seven days later, average larger in size and maintain large size throughout the season, are a deeper red in color, and of about the same firmness.

In a test for the frozen package trade Pocahontas has rated satisfactory in color, texture, and flavor.

**MARYLAND**—The annual meeting of the Peninsula Horticultural Society will be held December 10-11 at Salisbury, Md. Vegetable Day is the 10th and the program will include such important topics as control of root knot nematodes, bacterial leaf spot of pepper, insect control on snap beans, lima beans, and cucumbers, and disease control on tomatoes. A panel discussion, led by L. L. Danielson, Virginia Truck Experiment Station, will cover fighting weeds with chemicals.

A discussion of the important vegetable varieties and their performance in 1953 will be led by F. C. Stark, University of Maryland. A panel discussion by more than a dozen Virginia, Maryland, and Delaware authorities, on advancements in vegetable production, should prove of unusual interest. This discussion will be led by W. H. Brittingham, Virginia Truck Experiment Station.

Second day of the meeting will be devoted to fruit subjects, including a panel discussion on blueberries.—*Robert F. Stevens, Sec'y, Newark, Del.*

# Junior Growers to Meet in Tulsa

**Boys and Girls 13 to 22 years of age are invited to attend**

TULSA, OKLA., will be host to the National Junior Vegetable Growers for their annual meeting and contests December 6 to 10, 1953. The headquarters will be at Hotel Mayo.

Vegetable judging, grading, and identification contests were once the primary activity at the annual meetings of the National Junior Vegetable Growers, but their program has been broadened in recent years to take in three vegetable demonstration contests—production, including soil fertility and conservation, marketing, and use.

State winners in each of these three divisions from at least 40 states are expected to keep nine nationally known demonstration judges busy from early morning till evening to select the nationwide champions.

Project reports have already been received from boys and girls in more than 40 states in the NJVGA Production and Marketing Scholarship contest. These reports will be judged and the prizes awarded at the Tulsa meeting.

Also included in the competition is the Soil Fertility essay contest. Boys and girls from all over the country sent essays to their state leaders by November telling how they are improving the fertility of their soils. These will be judged by a National Committee and state and national prizes will be awarded at Tulsa.

### Educational Tours

Besides the four contests, there will be two days of educational tours in and around Tulsa, the city that claims to be the oil capital of the world. The tours will include an oil refinery, a bomber manufacturing plant, an Indian Museum and an art center in Tulsa, and one day of out-of-town trips to the Woolaroc Ranch, Will Rogers Museum, Pecan plantations, a canning factory, a rodeo, and a western barbeque.

All boys and girls between the ages of 13 and 22 who are interested in vegetable production, marketing, or use are welcome to attend. Registration starts Sunday afternoon, but anyone unable to get there at that time can join in for the tours on Monday or Tuesday or for the demonstrations on Wednesday or the judging on Thursday.

Detailed copies of the program may be had from Prof. Grant B. Snyder, 103 French Hall, Amherst, Mass. Anyone planning to take part in the contests should contact Prof. Snyder at once.

# Collegiate Vegetable Contests

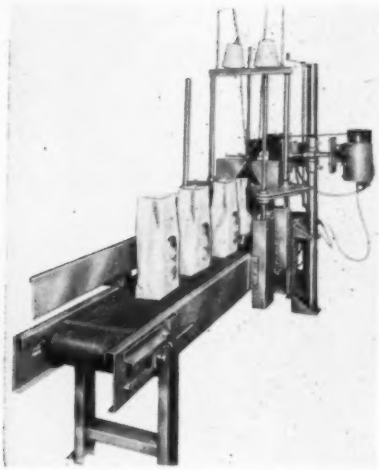
THE National Intercollegiate Vegetable Judging, Grading, and Identification Contests will be held at Hotel Mayo in Tulsa, Okla., on December 10, 1953, in conjunction with the National Junior Vegetable Growers' contests. Both of these contests include judging of vegetables, grading of potatoes or sweetpotatoes, identifying grade defects of those crops, and identifying various insects, diseases, and varieties of vegetables.

Anyone interested in this contest should write to Mason E. Marvel, Department of Horticulture, West Virginia University, Morgantown, W. Va.

# NEW FOR YOU

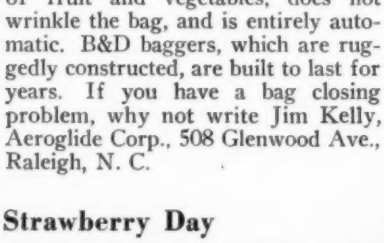
## —to increase your profits

### Automatic



We have heard quite a bit about automatic bag closing machines. The B&D automatic bag closer has been field tested for the last four years and is doing a a remarkable job for growers. It is versatile, handles all types of fruit and vegetables, does not wrinkle the bag, and is entirely automatic. B&D baggers, which are ruggedly constructed, are built to last for years. If you have a bag closing problem, why not write Jim Kelly, Aeroglide Corp., 508 Glenwood Ave., Raleigh, N. C.

### Strawberry Day

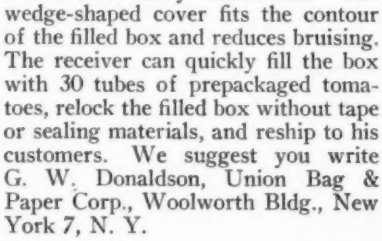


If you have been looking for a new strawberry, you will be interested in the Strawberry Field Day which was held at the University of Illinois this last summer. Experts from nurseries and agricultural colleges and universities evaluated new varieties. Dr. R. F. Voight, director of the experiment station, was in charge. For an all-purpose June berry, "Jumbo" took top honors, while Red Rich rated high on all counts among everbearing varieties. If you would like to have a report on these new and interesting berries, write Victor Judson, Judson Nurseries, Bristol, Ind.

### Re-Use Value

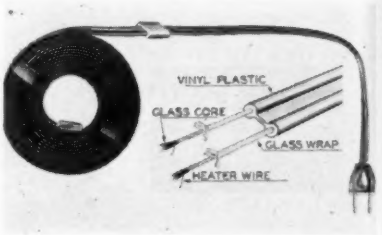

Tomato growers are enthusiastic about the new Union Bag tomato box. Each box holds 40 pounds of tomatoes and is composed of only three parts which are easily assembled. The wedge-shaped cover fits the contour of the filled box and reduces bruising. The receiver can quickly fill the box with 30 tubes of prepackaged tomatoes, relock the filled box without tape or sealing materials, and reship to his customers. We suggest you write G. W. Donaldson, Union Bag & Paper Corp., Woolworth Bldg., New York 7, N. Y.

### Higher Prices



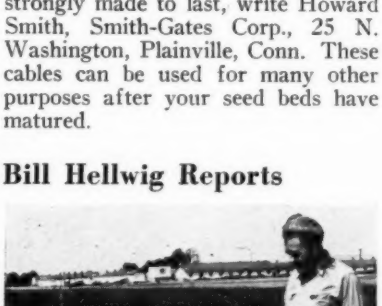
Several well-known New York vegetable growers are using vegetable washers with waxing attachments to increase profits. In actual tests, washed and waxed vegetables sold at considerably higher prices in New York markets. The unit pictured above is a favorite with these growers because it does the job quickly, efficiently, and inexpensively. M. Maynard, Lobee Pump & Machinery Co., Gasport 1, N. Y., will be glad to send you full details without obligation.

### Soil Warming



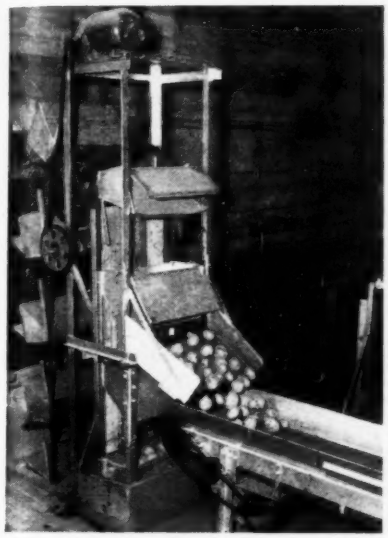

Recently we saw an unusual heater cable doing a splendid job of warming the soil to speed vegetable seed germination. What impressed us most was the effective job these cables do and their low cost—20-foot lengths are only $4.20. If you are looking for a cable at a minimum price yet strongly made to last, write Howard Smith, Smith-Gates Corp., 25 N. Washington, Plainville, Conn. These cables can be used for many other purposes after your seed beds have matured.

### Bill Hellwig Reports



Down in Chesterfield, Mo., the Hellwig brothers own 500 acres, and this season they accomplished remarkable results at low cost on their acreage. Bill Hellwig states that with a three-bed boom sprayer he made one application of Chloro-IPC before germination at the rate of two pounds, in 25 gallons of water per acre. The cost was $5 per acre as compared to hand labor of $100 per acre. The new chemical has been used successfully in spinach, onions, and asparagus. If you want to lick your weed problems effectively at low cost, why not get information on this new chemical from W. A. Rooney, Monsanto Chemical Co., 1700 S. 2nd St., St. Louis 4, Mo.

# Potato Elevator Cuts Costs



SHOWN above is a new machine developed by the agricultural engineering department of the Maine Agricultural Experiment Station at Orono, Maine, to reduce labor costs in bulk handling potatoes.

Because the cleated inclined elevator permits excessive rollback when inclined above 45 degrees, Maine engineers searched for a new method of elevating potatoes. According to H. D. Bartlett this is one phase of a broad program to improve mechanical equipment for handling potatoes into and out of storage.

The vertical potato elevator is a series of specially designed buckets traveling on a pair of endless chains. Potatoes are delivered to and discharged from the elevator as the buckets travel upward. The important feature of the elevator is a special bucket design which permits the potatoes to discharge before going over the top sprocket.

Potatoes may be supplied to the machine either by a conveyor or by dumping bags or barrels directly into the filling hopper. At the discharge position the potatoes go directly to a grader or onto a conveyor for distribution.

The experimental machine has been used successfully for three shipping seasons to elevate approximately 10,000 barrels of potatoes per season from the basement to the ground floor of a potato storage building located at Presque Isle, Me.

Plans are available by writing Howard D. Bartlett, Maine Agricultural Experiment Station, Orono, Maine.

# DEVELOPING A NEW VEGETABLE AREA

**Co-operation between growers and big city industry brings prosperity to a new region**

HOW industry and agriculture can work together is graphically illustrated in the development of a cool weather vegetable industry in the Allegheny Plateau of Maryland and West Virginia. The work of local growers, the Baltimore and Ohio Railroad, the Monongahela Power Company, and the University of Maryland have helped speed the production of cauliflower, spinach, broccoli, and kale for market.

However, it takes the effort and sacrifice of one man to work out a new scheme involving so many people. That man was Garrett County Agent, John H. Carter, who was worried by the dropping off of the potato acreage from 3,000 to 500 acres in the post-war period. He remembered that a number of years before high grade commercial cauliflower had been raised successfully, although marketing had proven the pitfall because of insufficient acreage.

B. & O. horticultural agent R. L. Winklepleck confirmed that cool weather vegetable crops could be grown at a time when they were not available from other areas. In early 1951, the Garrett County Vegetable Growers' Co-operative was formed. With the B. & O. supplying a transplanter and sprayer, 18 farmers grew 36 acres of cauliflower.

Last year, the vegetable acreage jumped to 150. In addition, William L. Duvall, a Baltimore prepacker and national treasurer of the five-year old Produce Prepackaging Association, came to Garrett County, and leased 70 acres of land.

Duvall built a 5,000-square foot refrigeration, packing, and shipping shed at Redhouse, Md., and formed a partnership with H. F. Weston of Mountain Lake Park under the name of Duvall Farms, a subsidiary of his main company, E. L. Duvall and Son, Inc.

This year, Duvall Farms under farm manager Fred Onderdonk's supervision, is growing 270 acres of cool weather vegetables, including 120 acres of cabbage, 60 acres of spinach, 30 acres of kale, 13 acres of string beans, 12 acres of cauliflower, 10 acres of collard greens, 10 acres of broccoli, nine acres of mustard greens, six acres of turnip greens, and one acre of red cabbage.

The vegetables this year, despite drought, produced magnificently perhaps due in part to morning dews. Another answer to the high production lay in the application of large amounts of fertilizer, lime, insecticides, and constant attention.

"So far here, we have hit less than one-tenth of the potential acreage and production," was one comment from the plateau. It is estimated the area can move as much as 5,000 acres of cauliflower and 2,500 to 3,000 acres of spinach in August and September. THE END

**Loading turnip greens at the Redhouse, Md., field operated by Duvall Farms. Left to right, county agent John H. Carter watches as Arthur Cullers, Germania, moves one crate and Don Henline, Oakland, lifts another onto truck while Wm. L. Duvall looks on.**

## HALO BLIGHT

(*Continued from page* 5)

spraying should be done after blossoming.

In recent greenhouse tests in which bean leaves were dipped in or sprayed with a 0.025 per cent solution of streptomycin and inoculated with the halo blight organism a short time later, complete protection of the leaves from halo blight resulted. Beans in field plots at Beltsville, Md., in 1953 were sprayed with this concentration of streptomycin and later inoculated with the halo blight organism, but because of extremely high temperatures and lack of rainfall the disease failed to develop even in the unsprayed plots. Further field tests must be made to determine the effectiveness of concentrations as low as 0.025 per cent.

Greenhouse experiments have also shown that crude forms of streptomycin are as effective in controlling halo blight as the pure form, provided equivalent amounts of the antibiotics are used. The effectiveness of a streptomycin dust, rather than a spray, has not been determined. Preliminary field tests suggest that a dust may be effective.

Greenhouse tests also showed that when halo blight-infected plants were dipped in a 0.05 per cent water solution of streptomycin shortly after the appearance of the symptoms, the disease was controlled. The disease developed extensively on similar untreated plants. When treatment was delayed several days after visible infection, the control was not nearly so effective.

### Control of Common Blight

In the greenhouse common blight of beans was as effectively controlled with streptomycin as was halo blight. Field experiments have not yet confirmed these greenhouse findings. Field plots that were thoroughly sprayed two or three times with streptomycin showed no common blight infection early in the season but later diseased plants were observed. The

severity of the disease was definitely reduced but the total number of infected plants was not reduced by the treatment.

### Mutants Have Occurred

Laboratory experiments showed that mutants of the common blight organism occurred which tolerated fairly high concentrations of streptomycin. Such mutation has not been noted with the halo blight organism. One of the common blight mutants has thus far resisted even 0.1 per cent streptomycin in artificial culture.

It is possible that similar mutants may have occurred in the above-mentioned field tests and thus caused the late infection of the common blight disease. Later studies may show that a combination of several antibiotics may control these resistant mutants or strains.

The importance of all these results to plant disease control in Agriculture may be very great. Numerous other bacterial diseases of crops now uncontrollable may be controlled in the future by streptomycin or other antibiotics. THE END

## HIGH YIELDS

(*Continued from page 8*)

In the spring he uses a 4-12-4 to top dress bearing beds. A 3-12-6 is applied the first week of picking in order to obtain a satisfactory top growth to carry the berries through the season.

Like most of the large growers, Sambade has his own test plots where new varieties, fertilizers, and growing methods are tested. If fertilizer is applied too late in the growing season, his test plot shows the berries will be undersized.

Varieties play an important part. Sambade's standby is Howard 17 (Premier) as he finds this old variety bears well, has adapted itself to the Cape soil, and the berries are firmer and stand longer shipping distances.

### Other Varieties

Other varieties coming into use on the Cape are Robinson, (Scarlet Beauty) and Sparkle. But dry weather, soil conditions, and shipping distances have to be given consideration when planting a new variety.

First berries from the Cape to reach the market are a couple inches in diameter and bring as high as 65 cents a quart in the Boston wholesale market. Later berries cannot compare in size or price with the first few pickings.

It's bumper crops of large berries and high yields that keep growers like Jack Sambade in business over the years. THE END

## NEW JERSEY

(*Continued from page 7*)

founded in 1853. Other important packs were peas, snap beans, asparagus, beets, squash, and lima beans.

At present there are about 45 companies canning vegetables in New Jersey, six of them national. Two of these have acquired their New Jersey plants in recent years to avoid the heavy transportation costs involved in reaching eastern markets. They also are attracted by the quality of the raw products available in New Jersey even though the prices paid to the growers usually are above the average prevailing in other areas.

Besides furnishing a stable market for a large volume of vegetables, the processors for many years have made other contributions by sponsoring programs which have aided farmers to increase their yields. The Ritter Company at Bridgeton was an early advocate of selected seed stock and better plants for tomato growers. The Campbell Soup Company has operated a well staffed experimental and demonstration farm for conducting tests of soil, sprays, dusts, and other practices as well as developing new varieties. The Francis C. Stokes Company is well known for its outstanding plant breeding program and the development of high yielding hybrids.

During the last 10 years the demand for processing has increased rapidly because of the enormous expansion of the frozen food industry, especially at the huge Seabrook Farms development at Bridgeton. Here the products of about 50,000 crop acres are purchased each year, mostly under contract.

The Seabrook operation is a story in itself. Beginning with a 57-acre farm near Deerfield in 1912, Charles F. Seabrook soon recognized the importance of having an ample supply of moisture and installed overhead irrigation on most of his farm. Thus he was able to supply top-quality produce to a select trade. However, as he expanded he turned his attention to processing— first to canning, and then to freezing.

This year the Seabrook schedule calls for a pack of 7 million pounds of asparagus, 7.5 million pounds of peas, 14 million pounds of lima beans —including both baby lima and Fordhooks—18 million pounds of spinach, as well as 25 million pounds of beets, snap beans, sweet corn, broccoli, cauliflower, and squash.

Seabrook Farms is manned by a competent staff of experienced managers who direct all operations on a streamlined schedule which assures a supply of quality raw products for the huge freezing plant which operates around the clock during the harvest season.

*Grower-Owned Auction Markets*—During the late 1920's many of the South Jersey growers were dissatisfied with the returns they received from commission merchants and other city buyers. After studying a number of plans they set up a cooperative country auction block at Cedarville, where the buyers purchased their needs and shipped by truck directly to their wholesale or retail outlets.

The experiment proved successful and served as the pattern for 10 other auctions in important producing sections. These all are under the supervision of the Division of Markets, and with some adjustments have proved to be very satisfactory markets for a large volume of produce.

By avoiding the congested New York City markets the produce moves more promptly to the secondary cities or to supermarket warehouses, thus assuring consumers a supply of produce 12 to 24 hours fresher. In addition, many of the large growers sell directly to chain store and supermarket buyers who are seeking uniform packs of top quality and in volume.

A number of wholesale city markets are important outlets. The largest of these is the Newark Farmers Market, a very successful grower-owned enterprise which last year reported sales of $13 million.

*Source of Seed*—One of the interesting aspects of New Jersey's vegetable industry is the development of the state as an important source of seed. At present New Jersey supplies about 80 per cent of the tomato seed used in the United States, Cuba, and Mexico. Much of the tomato seed is certified by the State Department of Agriculture, which in 1952 placed its official seal on 128,900 pounds. The Rutgers variety, a New Jersey introduction in 1935, accounted for about 97,500 pounds. Besides tomato seed, New Jersey furnishes large quantities of pepper, egg plant, squash, cucumber, and cantaloupe seed.

*Research and Extension* — The New Jersey Agricultural College, founded at Rutgers College in 1862, and the New Jersey Agricultural Experiment Station, established in 1880, early recognized the importance of the vegetable industry. Chief among the early experiments were studies of fertilizers, irrigation, and varieties of vegetables.

A unit devoted to vegetables was established in the department of horticulture when Professor Lyman G. Schermerhorn joined the staff in 1914. Activities were expanded to include plant nutrition and breeding, particularly of tomatoes, sweet potatoes, asparagus, and peppers. Perhaps the most outstanding introductions by Schermerhorn were the Queens and the Rutgers tomato, now the most widely grown variety.

Since 1917 Charles H. Nissley has been New Jersey's extension specialist in vegetable growing. During his long career while working with county agents, growers, and processors, he has been recognized as an able leader throughout the state, particularly in the field of disease and insect control.

*Leaders and Organizations*—Besides those associated with the experiment station there are a number of other leaders who have made substantial contributions to the advancement of New Jersey's vegetable growing industry. One of the most distinguished was the late Harry F. Hall of Moorestown, who came to New Jersey as production manager for Campbell Soup Company in 1912 and launched a program of services to growers which benefited the entire industry. An outstanding leader was John W. H. Thornborrow of Millville, who contributed much to the success of the co-operative auction markets.

Another who has aided that development with sound practical guidance and supervision is Warren W. Oley, markets director of the State Department of Agriculture since 1928. Howard M. Sheppard of Cedarville has been an active leader as well as a prominent seedsman for more than 30 years. Serving as chairman of a special sweet potato industry committee is Louis J. Sanguinetti of Minotola, who has sponsored a new marketing program for that crop.

Most vegetable growers are members of the New Jersey State Horticultural Society, which also includes fruit growers. The presidency of the society is alternated annually between the two groups. Last year Hilyard S. Simpkins of Fieldsboro, who specializes in sweet corn, was president, and the successor of the present president, a fruit grower, probably will be the vice-president, Francis A. Raymaley of Alloway, production manager at Seabrook Farms.

*Influence of Settlers and Immigrants*—Located so close to New York City, the gateway of the nation, New Jersey has served in many respects as the crossroads and melting

(*Continued on page* 20)

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## NEW JERSEY

(*Continued from page* 19)

pot for large numbers of European immigrants. Consequently, each national group has left some traces of its farm life, crops, and favorite foods.

This probably accounts for certain characteristics of New Jersey agriculture. For instance, in terms of vegetables, one finds that many of the present market gardeners in the northern part of the state are descendants of the early Holland Dutch and German settlers. They have inherited an ability to produce a lot on a limited acreage, and they excel in growing a wide variety of vegetables.

Mention already has been made of the Polish and German settlers in the upstate muck areas.

Perhaps the greatest impact of any ethnological group has been that of the Italians who cleared some of the less desirable land in South Jersey. These hard-working and energetic settlers, blessed with large families, converted their farms of rather light soil into highly productive units which today are operated by their sons or grandsons. Their background probably accounts for the large acreage devoted to peppers of all types.

Much of their land is now under overhead or portable irrigation. Excellent crops of green beans, lettuce, beets, carrots, onions, cucumbers, and eggplant are grown under irrigation while a considerable acreage is devoted to sweet potatoes.

In the same area a considerable number of Jewish immigrants arrived before 1900, and their descendants also are raising similar crops.

The Swedesboro area, famous for asparagus, early tomatoes, and sweet potatoes, is another section where the Italians have located and prospered.

In Central Jersey there are a number of farms operated by Chinese who are producing special vegetables for use in Chinese dishes.

In the early World War II years, when the shortage of labor was a serious problem, a number of Nisei were brought to Seabrook Farms from California. They proved to be excellent workers, and many remained after their exclusion from the Pacific Coast states was repealed. Observers believe that eventually some of the Nisei will acquire their own property and become successful vegetable growers. THE END

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The new combine harvester gets a workout in onion fields at Vale, Ore.

# ONION COMBINE SPEEDS HARVESTING

## Four carloads a day are dug, topped, and sacked with a minimum of manpower

By HAROLD and LILLIE L. LARSEN

HARVESTING onions used to be a real task. The onions were not only dug by hand, they were picked up by hand, cleaned by hand, sorted and sacked by hand. Now it's no bother to harvest them, and it doesn't take the large crew that it used to.

At the request of some of the onion growers of Idaho, eastern Oregon, and Washington, the Jonas J. Byberg Company at Silverton, Ore., combined their onion digger and topper into one machine that does the complete job at the rate of four carloads a day.

The combine straddles the usual two-row bed of onions, digs them, removes the dirt and weeds, tops them, and discharges the filled sacks or boxes, whichever is used, on the ground behind itself.

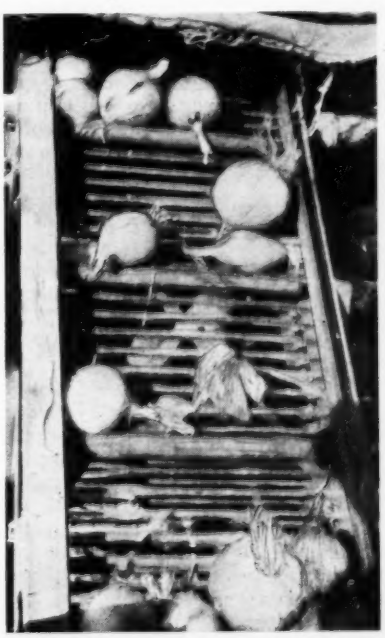
Test runs on Sweet Spanish onion showed from 15,000 to 17,000 pounds per hour. On whites the machine yield was over 22,000 pounds per hour.

Two people are usually required to run the machine, one on the tractor and one to hang sacks on the automatic sacking device. A third or even a fourth man can be used on the inspection belt if necessary.

The topping unit is fully automatic, requiring no operator. The ingenious sack device handles more volume in a given time than any other known device, growers said during test runs.

Rubber cushioning prevents bruising wherever the onions are dropped from one unit to the other.

Harvesting procedure with this combine consists of first lifting or undercutting the onion rows and allowing them to wilt back a little for a few days. Then the combine picks them up, tops them, and deposits them behind in rows where they are left to cure in the sacks or boxes before hauling to storage.



Topped onions as they leave sorting belt.

## Little Things Have Great Significance

THERE seems to be two general directions in the field of pest control—one towards the bigger and more efficient machines, the other to smaller and smaller quantities of chemicals in the spray mixture.

A few years ago we hailed the advent of concentrate spraying. By breaking up the spray mist into finer particles and by other developments in spray application methods, we now are able to apply less chemical mixture per acre and yet have the same excellent control of a particular pest. In many instances this change is making it possible for growers to lower the cost of their pest control program. To be sure, there still are many refinements to be made, and the future holds many changes we do not now foresee.

Along with this mechanical development has come the great change from inorganic to organic chemicals. Many of these are used in much less concentrated mixtures than the older sprays of lead arsenate, sulfur, and Bordeaux. The trend seems to be towards smaller and smaller quantities of chemicals per 100 gallons of mixture. But, the control efficiency seems to be climbing higher and higher. Many vegetable pests are under good control today that 10 years ago were only partially controlled. Others will no doubt succumb to newer and more potent chemicals as science develops them.

Now, antibiotics in disease control present a new, challenging, and promising field of development. With these chemicals we are not concerned with pounds per hundred gallons, but parts per million. This is really getting our pest control methods down to fine points. Just think of using, say, 100 parts of streptomycin in a million parts of water for control of a bean blight, and getting excellent control of the disease.

So it appears that the small things still count most. Our future still holds secret some mighty important small things. It is our policy to present them to you just as soon as sufficient data are available to make such presentations worth while to you. In light of this, you will want to read in this issue the article by Drs. W. J. Zaumeyer, H. Rex Thomas, and J. W. Mitchell on how they are using antibiotics to control diseases.

## The USDA Reorganization

UNDER the guiding hand of Secretary of Agriculture Ezra Taft Benson, the USDA has been reorganized to put "operations of the Department on a more business-like, efficient and decentralized basis." We are in favor of these changes since they affect many of the vast bureaus of the USDA, but we hope the research activities are allowed to continue without change.

The most important function of the USDA to our way of thinking lies in its research activities. Great discoveries in plant science have been made by USDA research programs which save millions of dollars for growers because of new and improved farm practices.

Prominent in the field of research are several old and proud names including the Bureau of Entomology and Plant Quarantine and the Bureau of Plant Industry, Soils and Agricultural Engineering.

These names have become synonymous with research above and beyond the call of duty and devoted service to the cause of the grower. They are viewed with the same respect accorded the older agricultural experiment stations in this country or, say, the East Malling Research Station in England.

Now we find that the reorganization will do away with these names as the research bureaus become "integrated" under the new setup. No longer will there be a Bureau of Entomology or a Bureau of Plant Industry. These organizations now come under an Agricultural Research Service which is in turn under an assistant secretary in charge of Federal-State Relations.

We are sorry to see the old names go. Much work and long years of service went into the building of the prestige the research organizations bearing these names enjoy. More important, however, we hope that the work of these research groups will not be interrupted and that the conditions which made possible the achievements of the past are not altered.

The atmosphere in which he works and the degree of control over a research worker and the administrative setup is highly important. Over the years a fairly good system was evolved in the USDA and now is no time to change it.

## The New Yearbook

EVERY vegetable grower should have a copy of *Plant Diseases,* the Yearbook of Agriculture for 1953. It may be obtained from your representative in Congress while the supply lasts or by sending $2.50 to the Superintendent of Documents, Washington 25, D. C.

The book is invaluable in giving an understanding of the terrific forces we are up against in fighting blights, scabs, rusts, and viruses. For instance, in the United States alone the annual loss from plant diseases is estimated to be about three billion dollars. Measure this against total annual vegetable production which is around one billion dollars. If all the waste due to plant disease could be prevented it would mean an increase of 10 per cent over our present crop production.

One of the most important vegetable diseases is late blight. Ironically enough, it was the late blight which, because of its tragic effect on the Irish potato crop, led to the first organized research on plant diseases.

In 1845 and 1846 the Irish potato crop was destroyed by late blight. Because the population was almost completely dependent on the potato for food, a whole chain of circumstances resulted from the blight. A million people died from starvation or from disease following malnutrition. A million and a half more emmigrated.

Socially, politically, and economically, the blight outbreaks left their scars on the people. More than 100 years later late blight is still feared, and outbreaks occur to this day despite man's concerted efforts.

The Yearbook reports that it is never safe for growers or regions to become complacent about freedom of their crops from plant diseases. Disease outbreaks can lead to financial ruin, even in this day and age, so it pays to be a keen observer. The Plant Disease Yearbook will help accomplish this worth-while purpose.

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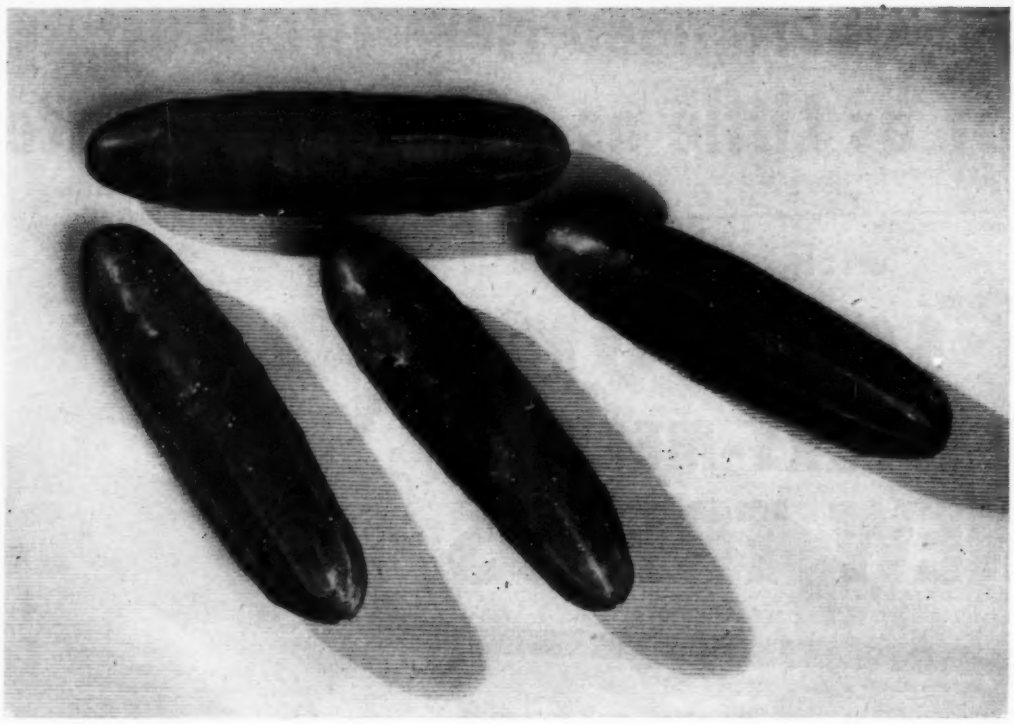

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